

32053US01

14

CLAIMS

1. A method of improving the performance of a glucose oxidase based glucose sensor, said method comprising providing the glucose sensor with a ROS removing compartment
5 capable of reducing the diffusion of ROS out of the glucose sensor to a level at which biointerference is abolished or substantially reduced.
2. A method according to claim 1, wherein the ROS removing compartment comprises catalase and/or one or more reactive oxygen species scavenger.
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3. A method according to claims 1 or 2, wherein the reactive oxygen species is selected from the group consisting of H_2O_2 , O^{2-} , and OH^\cdot .
4. A method according to any of the preceding claims, wherein the ROS removing
15 compartment is able to ensure that the concentration of H_2O_2 in the tissue surrounding the glucose sensor remains below $10\mu\text{M}$.
5. A method according to claim 1 or 2, wherein substantially no activation of $\text{TGF}\beta$ and substantially no monocyte chemotaxis occur in the tissue surrounding the glucose sensor.
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6. A method according to any of the preceding claims, wherein the abolished or reduced biointerference leads to a decreased requirement for calibration of the glucose sensor when compared to the operation of a similar glucose sensor without a ROS removing compartment.
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7. A method according to any of the preceding claims, wherein the sensor will require calibration no more than once a day, such as once every second day, once every third day, or once a week during functioning for a period of several days, one week, several weeks, several months, such as 3 months, preferably 6 months, most preferably one year.
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8. A method according to any of the preceding claims, wherein the implanted sensor functions adequately several months, such as 3 months, preferably 6 months, most preferably one year.
- 35 9. A method according to any of the preceding claims, wherein the encapsulation process is substantially decreased as evidenced by the thickness of the collagen capsule around the glucose measuring part of the sensor being less than 1 mm, such as less than 0,5 mm, preferably less than 0,1 mm, even more preferably less than 0,05 mm, most preferably less than 0,01 mm after a functional period of time which is several days, one week,

32053US01

15

several weeks, several months, such as 3 months, preferably 6 months, most preferably one year.

10. A method according to any of the preceding claims wherein the glucose oxidase based
5 glucose sensor is an implanted or semi-implanted glucose sensor.

11. Use of a ROS removing compartment in a glucose oxidase based glucose sensor so that biointerference is substantially decreased or avoided.

10 12. Use according to claim 9, wherein the ROS removing compartment comprises catalase and/or one or more reactive oxygen species scavengers.

13. Use according to any of claims 11 and 12, wherein the ROS removing compartment able to ensure that the concentration of H_2O_2 in the tissue surrounding the glucose sensor
15 remains below $10\mu M$

14. Use according to any of claims 11 to 13, wherein the glucose sensor is implanted or semi-implanted in a human.

20 15. A glucose oxidase based glucose sensor comprising a ROS removing compartment capable of reducing the diffusion of ROS out of the glucose sensor to a level at which biointerference is abolished or substantially reduced

16. A glucose oxidase based glucose sensor according to claim 15, wherein the ROS
25 removing compartment comprises catalase and/or one or more reactive oxygen species scavengers.

17. A glucose oxidase based glucose sensor according to claim 15 or 16 wherein the ROS removing compartment is able to ensure that the concentration of H_2O_2 in the tissue
30 surrounding the glucose sensor remains below $10\mu M$

18. A glucose oxidase based glucose sensor according to any of claims 15 to 17, which is to be implanted or semi-implanted in a human.

35 19. A glucose oxidase based glucose sensor according to any of claims 15 to 18, wherein the ROS removing compartment is separated from the surrounding tissue by a biocompatible membrane.

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